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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,990	10/29/2003	Howard E. Rhodes	M4065.0732/P732	5298
24998	7590	04/04/2006	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			TRAN, MAI HUONG C	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			2818	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supplemental  
Notice of Allowability**

Application No.

10/694,990

Examiner

Mai-Huong Tran

Applicant(s)

RHODES, HOWARD E.

Art Unit

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 03/30/06.
2. ☒ The allowed claim(s) is/are 1-11, 13-61 and 134-136.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

  
**MAI-HUONG TRAN  
PRIMARY EXAMINER**

## **DETAILED ACTION**

### **Examiner's Amendment.**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

#### **Cancel claims 12 and 62-133.**

Per a phone conversation and an agreement with Mr. Gianni Minutoli and Mr. Thomas D'amico on March 29 and 30, 2006, claim 41 is amended as follows:

41. A photodiode structure comprising :

a first doped region having a first conductivity type formed in a substrate, said first doped region being in contact with a second doped region having said first conductivity type, said second doped region formed ~~laterally adjacent to~~ on a sidewall and bottom of a trench isolation region;

a third doped region with a second conductivity type that accumulates photo-generated charge formed beneath said first doped region and adjacent to said second doped region; and

a fourth doped region having said first conductivity type formed at least in part beneath said second doped region.

### **Reason for allowance**

The following is an examiner's statement of reason for allowance: None of the references of record teaches or suggests the claimed Isolation Region Implant Permitting Improved Photodiode Structure having a photosensitive region formed less than  $0.30\ \mu$  away from the at least one isolation trench and the doped region.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mai-Huong Tran, (571) 272-1796. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 6:30 PM. The examiner's supervisor, David Nelms can be reached on (571) 272-1787.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

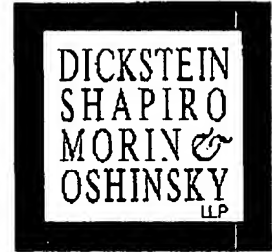
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR, Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'MH' or similar initials, located below the toll-free number.A handwritten signature in black ink, appearing to be 'Mai-Huong Tran', located above the printed name.

Mai-Huong Tran  
Primary Examiner  
Art Unit 2818

**FAX TRANSMISSION**DATE: March 30, 2006CLIENT NO.: M4065.0732MESSAGE TO: Examiner TranCOMPANY: USPTOFAX NUMBER: (571) 273-1796PHONE: (571) 272-1796FROM: Gianni Minutoli Reg. No. 41,198

TIMEKEEPER NO.: \_\_\_\_\_

PHONE: (202) 861-9191PAGES (Including Cover Sheet): 1 HARD COPY TO FOLLOW: YES X NO

SENT BY:

GM/cjm

DATE/TIME:

**MESSAGE:**

Re: Application No.: 10/694,990

Thank you for having a phone conversation with us on March 29 and 30, 2006. Per our discussions, this is your authorization to amend claim 41, consistent with your proposed Examiner's Amendment, to read as follows:

41. A photodiode structure comprising:

a first doped region having a first conductivity type formed in a substrate, said first doped region being in contact with a second doped region having said first conductivity type, said second doped region formed laterally adjacent to on a sidewall and bottom of a trench isolation region;

a third doped region with a second conductivity type that accumulates photo-generated charge formed beneath said first doped region and adjacent to said second doped region; and

a fourth doped region having said first conductivity type formed at least in part beneath said second doped region.

If your receipt of this transmission is in error, please notify this firm immediately by collect call to our Facsimile Department at 202-861-9106, and send the original transmission to us by return mail at the address below.

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